WHAT IS CLAIMED IS:

1. A frame synchronization method using an optimal pilot pattern, comprising the steps of:

receiving code sequences with the slot length of $(2l+1)$ for a radio frame according to an arbitrary chip rate;

arranging the received code sequences corresponding to the slot length for the radio frame and performing auto correlation according to a reception location of the code sequences, and simultaneously, arranging the code sequences corresponding to the slot length for the radio frame and performing cross correlation according to a reception location of the code sequences; and

observing the correlation results, to detect frame synchronization.

2. The method as claimed in claim 1, further comprising the step of combining at least one of the correlation result and adding up it so that a cross correlation value is obtained at the point of time of delay other than the point of time of delay at which the frame synchronization is detected, after the step of performing correlation.

3. The method as claimed in claim 1, wherein the step of performing correlation comprises the substeps of:

performing a first cross correlation between a first code sequence and a second code sequence among the received code sequences according to the reception location, and simultaneously, performing a second cross correlation between the second code sequence and the first code sequence which is shifted by a predetermined bit length.

4. The method as claimed in claim 3, wherein the result from the first cross correlation has the same characteristic as that from the second cross correlation.

5. The method as claimed in claim 3, wherein the second code sequence is obtained by cyclic-shifting and inverting the first code sequence.

6. The method as claimed in claim 1, wherein the step of detecting frame synchronization is constructed in such a manner that the received code sequences are arranged corresponding to the slot length for the radio frame, and auto correlation results according to the reception location of the code sequences are individually observed to detect frame synchronization.

7. The method as claimed in claim 1, wherein the step of detecting frame synchronization is constructed in such a manner that the received code sequences are arranged corresponding to the slot length for the radio frame, and cross correlation results according to the reception location of the code sequences are individually observed to detect frame synchronization.

8. The method as claimed in claim 1, wherein the auto correlation result shows a maximum correlation value corresponding to the slot length for the radio frame at the point of time of delay '0' and shows a minimum correlation value at the point of time of delay other than the point of time of delay '0'.

9. The method as claimed in claim 1, wherein the result obtained by cross-correlating the first code sequence with the second code sequence among the received code sequences according to the reception location has the same characteristic as that of the result obtained by cyclic-shifting the first code sequence by one bit length and then cross-correlating it with the second code sequence.

10. The method as claimed in claim 9, wherein the results from the two correlation steps have values with different polarities and an identical magnitude when

they are compared with an auto correlation value at the point of time when the first code sequence is cyclic-shifted by the bit length of $(l+1)$.

11. The method as claimed in claim 9, wherein the sum of the results from the two correlation steps, when it is compared with an auto correlation value at the point of time when the first code sequence is cyclic-shifted by the bit length of $(l+1)$, has a value twice the auto correlation value and a polarity different from the auto correlation value.

12. The method as claimed in claim 1, wherein the code sequences with the slot length of $(2l+1)$ are arranged so that the cross correlation result between adjacent code sequences becomes the minimum value at the point of time of delay '0'.

13. The method as claimed in claim 12, wherein the code sequences with the slot length of $(2l+1)$ are arranged so that the auto correlation results for each code sequence becomes the minimum value at the point of time of delay other than the point of time of delay '0'.

14. A method of confirming a frame synchronization by using correlation results based on individual slots, comprising the steps of:

receiving a plural number of pilot sequences of a slot length per radio frame according to an optional chip ratio, through each physical channel on a communication link;

disposing the received numerous pilot sequences so as to correspond to the slot length of the radio frame unit, and performing a correlation process per the slot according to reception positions of said pilot sequences;

adding up the performed respective correlation results and comparing the added result with a correlation threshold value predetermined; and

confirming a synchronization of the radio frame from its comparison result.

15. The method of claim 14, wherein a plural number of said pilot sequences received, represent the same correlation result at each delay time point per the slot which is based on the reception position.

16. The method of claim 15, wherein a plural number of said pilot sequences received, have the maximum correlation value at the delay time point of '0', as $\tau=0$, and also have the minimum correlation value at a point excepting the delay time point of '0'.